WASTE MANAGEMENT

WASTE MANAGEMENT
OF ILLINOIS
601 Madison Road
E. St. Louis, IL 62201
(618) 271-6788
(618) 271-1227 Fax

February 3, 2014

Illinois Environmental Protection Agency
Bureau of Air – Compliance Section #40
1021 North Grand Avenue East
Springfield, Ill 62702

163075AAL – St. Clair County
Cottonwood Hills Recycling and Disposal Facility

NSPS Semi-Annual Report for Period July 1, 2013 to December 31, 2013

Dear Sirs:

This letter transmits the NSPS Semi-Annual Report for the above referenced reporting period at the above referenced facility.

If you have any questions or require additional information, please call me at (618) 857-7160 or (314) 568-2025.

Sincerely,
Waste Management of Illinois, Inc.

Ernest H Dennison, PE
District Engineer

cc: IEPA – Collinsville Field Office
2009 Mall Street
Collinsville, Illinois 62234

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION
P.O. BOX 19506
SPRINGFIELD, ILLINOIS 62794-9506

FOR APPLICANT'S USE
Revision #: _____
Date: ____ / ____ / ____
Page _____ of _____
Source Designation:
_____

COMPLIANCE AND GENERAL REPORTING FORM

FOR AGENCY USE ONLY
ID NUMBER:
PERMIT #:
DATE:

THIS FORM IS USED FOR EITHER OF THE FOLLOWING:

- TO REPORT AND CERTIFY COMPLIANCE OF AN ENTIRE SOURCE OR SPECIFIC ITEMS OF EQUIPMENT WITH ALL APPLICABLE REQUIREMENTS DURING A REPORTING PERIOD, OR
- TO IDENTIFY AND ENSURE PROPER PROCESSING OF A SUBMITTED REPORT. THIS FORM SHOULD BE USED AS THE COVER SHEET OF THE SUBMITTED REPORT.

SOURCE INFORMATION

1) SOURCE NAME:
Cottonwood Hills Recycling and Disposal Facility

2) DATE FORM PREPARED:	3) SOURCE ID NO. (IF KNOWN):
February 2014	**163075AAL**

GENERAL INFORMATION

4) INDICATE FOR WHICH OF THE FOLLOWING THIS FORM IS BEING COMPLETED:

☒ **TO REPORT AND CERTIFY COMPLIANCE OF THE SOURCE OR SPECIFIC ITEMS OF EQUIPMENT WITH ALL APPLICABLE REQUIREMENTS**

☐ **TO IDENTIFY AND ENSURE PROPER PROCESSING OF A SUBMITTED REPORT**

5) PERIOD COVERED BY THIS REPORT:

FROM: 07 / 01 /2013 TO: 12 / 31 / 2013

6) NAME AND PHONE NUMBER OF PERSON TO CONTACT FOR QUESTIONS REGARDING THIS REPORT:

NAME: **Ernest Dennison** TITLE: **District Engineer**

PHONE#: (**618) 857-7160** EXT:____ or **(314) 568-2025**

THIS AGENCY IS AUTHORIZED TO REQUIRE THIS INFORMATION UNDER ILLINOIS REVISED STATUTES, 1991, AS AMENDED 1992, CHAPTER 111 1/2, PAR. 1039.5. DISCLOSURE OF THIS INFORMATION IS REQUIRED UNDER THAT SECTION. FAILURE TO DO SO MAY PREVENT THIS FORM FROM BEING PROCESSED AND COULD RESULT IN THE APPLICATION BEING DENIED. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

APPLICATION PAGE _____

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WM01496

COMPLIANCE OF SOURCE OR EQUIPMENT DURING REPORTING PERIOD

- COMPLETE ITEM 7 BELOW IF THIS FORM IS BEING USED TO REPORT AND CERTIFY COMPLIANCE OF THE ENTIRE SOURCE.
- COMPLETE ITEM 8 BELOW IF THIS FORM IS BEING USED TO REPORT AND CERTIFY COMPLIANCE OF SPECIFIC ITEMS OF EQUIPMENT ONLY.

7) WAS THE SOURCE IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS FOR THE ENTIRE REPORTING PERIOD? [X] YES [ ] NO

IF YES, THEN THE "REPORT INFORMATION" SECTION ON PAGE 3 OF THIS FORM DOES NOT NEED TO BE COMPLETED.

IF NO, THEN COMPLETE AND SUBMIT FORM CAAPP-405 -"EXCESS EMISSIONS, MONITORING EQUIPMENT DOWNTIME, AND MISCELLANEOUS REPORTING FORM."

8a) LIST THE EMISSION UNIT(S) AND CONTROL EQUIPMENT FOR WHICH THIS FORM IS BEING COMPLETED TO REPORT AND CERTIFY COMPLIANCE WITH (IF ADDITIONAL SPACE IS NEEDED FOR ITEM 10, ATTACH AND LABEL AS EXHIBIT 400-A):

See Attached Report.

b) IDENTIFY THE APPLICABLE REQIREMENT(S) FOR WHICH THIS FORM IS BEING USED TO REPORT AND CERTIFY COMPLIANCE WITH:

See Attached Report.

c) IDENTIFY THE APPLICABLE REQIREMENT(S) WHICH REQUIRE THAT THIS REPORT OR CERTIFICATION BE SUBMITTED:

Semi-Annual NSPS Report

d) WERE THE ABOVE REFERENCED ITEMS IN 8(a) IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS FOR THE ENTIRE REPORTING PERIOD? [X] YES [ ] NO

IF YES, THEN THE "REPORT INFORMATION" SECTION ON PAGE 3 OF THIS FORM DOES NOT NEED TO BE COMPLETED.

IF NO, THEN COMPLETE AND SUBMIT FORM CAAPP-405 - "EXCESS EMISSIONS, MONITORING EQUIPMENT DOWNTIME, AND MISCELLANEOUS REPORTING FORM."

WM01497

REPORT INFORMATION

9) TITLE OF REPORT BEING SUBMITTED:

NSPS Semi-Annual Report

10) IDENTIFY THE APPLICABLE REQIREMENT(S) WHICH REQUIRES THIS REPORT (IF APPLICABLE):

40 CFR 60.757(f) NSPS

11) BRIEFLY EXPLAIN WHAT THIS REPORT COVERS:

This Semi-Annual NSPS Report is a summary of any exceedences of monitored parameters, periods of downtime for gas collection/control devices, and any expansions/modifications to the gas collection system.

12) ATTACH THE REPORT TO THIS FORM.

See Attached Report

SIGNATURE BLOCK

NOTE: THIS CERTIFICATION MUST BE SIGNED BY A RESPONSIBLE OFFICIAL. APPLICATIONS WITHOUT A SIGNED CERTIFICATION WILL BE RETURNED AS INCOMPLETE.

13) I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION CONTAINED IN THIS APPLICATION ARE TRUE, ACCURATE AND COMPLETE.

AUTHORIZED SIGNATURE:

BY: E H Dennison

AUTHORIZED SIGNATURE

DISTRICT ENGINEER
TITLE OF SIGNATORY

ERNEST H DENNISON
TYPED OR PRINTED NAME OF SIGNATORY

2 , 3 , 14
DATE

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION
P.O. BOX 19506
SPRINGFIELD, ILLINOIS 62794-9506

FOR APPLICANT'S USE
Revision #: _____
Date: ____ / ____ / ____
Page _____ of _____
Source Designation:

DELEGATION OF AUTHORITY FOR RESPONSIBLE OFFICIAL TO A REPRESENTATIVE

FOR AGENCY USE ONLY
ID NUMBER:
PERMIT #:
DATE:

THIS FORM SHALL BE USED BY A RESPONSIBLE OFFICIAL TO DELEGATE AUTHORITY TO A REPRESENTATIVE OF SUCH PERSON FOR SIGNATURE ON APPLICATIONS OR CERTIFICATION OF REPORTS TO BE SUBMITTED PURSUANT TO THE CLEAN AIR ACT.

THIS FORM SHALL ONLY BE USED FOR A CORPORATION AT WHICH A PRESIDENT, SECRETARY, TREASURER, OR VICE-PRESIDENT OF THE CORPORATION IN CHARGE OF BUSINESS FUNCTION, OR ANY OTHER PERSON WHO PERFORMS SIMILAR POLICY OR DECISION MAKING FUNCTIONS FOR THE CORPORATION TO TRANSFER THE AUTHORITY AS A RESPONSIBLE OFFICIAL TO A REPRESENTATIVE OF SUCH PERSON. THE REPRESENTATIVE OF SUCH PERSON MUST BE RESPONSIBLE FOR THE OVERALL OPERATION OF ONE OR MORE MANUFACTURING, PRODUCTION, OR OPERATING FACILITIES APPLYING FOR OR SUBJECT TO A PERMIT.

NOTE: THIS TRANSFER OF DELEGATION OF AUTHORITY IS APPLICABLE ONLY IF THE FACILITY EMPLOYS MORE THAN 250 PERSONS OR HAS A GROSS ANNUAL SALES OR EXPENDITURES EXCEEDING $25 MILLION (IN SECOND QUARTER 1980 DOLLARS).

SOURCE INFORMATION

1) SOURCE NAME: Cottonwood Hills Recycling and Disposal Facility

2) DATE FORM PREPARED: 1/17/12

3) SOURCE ID NO. (IF KNOWN): 163075AAL

TRANSFER OF AUTHORITY

4) I, THE UNDERSIGNED, BEING A PRESIDENT, SECRETARY, TREASURER, OR VICE-PRESIDENT OF THE CORPORATION IN CHARGE OF BUSINESS FUNCTION, OR OTHER PERSON WHO PERFORMS SIMILAR POLICY OR DECISION MAKING FUNCTIONS FOR THE CORPORATION, HEREBY TRANSFER THE AUTHORITY AS A RESPONSIBLE OFFICIAL TO Ernest H. Dennison, THEY BEING A REPRESENTATIVE AND RESPONSIBLE FOR THE OVERALL OPERATION OF ONE OR MORE MANUFACTURING, PRODUCTION, OR OPERATING FACILITIES APPLYING FOR OR SUBJECT TO A PERMIT.

AUTHORIZED SIGNATURE

Vice President and Assistant Secretary
TITLE OF SIGNATORY

Dennis M. Wilt
TYPED OR PRINTED NAME OF SIGNATORY

1 / 17 / 12
DATE

Ernest H. Dennison
DELEGATED REPRESENTATIVE

District Engineer
TITLE OF DESIGNATED REPRESENTATIVE

THIS AGENCY IS AUTHORIZED TO REQUIRE THIS INFORMATION UNDER ILLINOIS REVISED STATUTES, 1991, AS AMENDED 1992, CHAPTER 111 1/2, PAR. 1039 5 DISCLOSURE OF THIS INFORMATION IS REQUIRED UNDER THAT SECTION FAILURE TO DO SO MAY PREVENT THIS FORM FROM BEING PROCESSED AND COULD RESULT IN THE APPLICATION BEING DENIED. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

APPLICATION PAGE _____

FOR APPLICANT'S USE

WM01499

COTTONWOOD HILLS
RECYCLING AND DISPOSAL FACILITY

NSPS SEMI-ANNUAL REPORT

For the Reporting Period
07/01/13 to 12/31/13

Prepared By
Waste Management of Illinois, Inc.

February 2014

1.0 Introduction

This document consists of the semi-annual report for Cottonwood Hills Recycling and Disposal Facility in Marissa, Illinois and has been prepared in accordance with 40 CFR 60.757(f). This report covers the period of gas system operations from July 1, 2013 to December 31, 2013.

Documented in this report are exceedances of monitored parameters under 40 CFR 60.756, periods of downtime for gas collection/control devices, and any expansions/modifications to the gas collection system during the reporting period. The report is organized into three main sections: Collection systems, Control Devices and Landfill.

The gas collection system currently in place at the site consists of 22 vertical gas collection wells and temporary gas collection trenches. The wells and trenches are connected to the gas collection laterals and header pipe which leads to a 3000 scfm open flare (control device).

The gas mover equipment is comprised of a blower at the flare station.

2.0 Collection System Summary

2.1 Exceedance of Monitored Parameters

Gauge Pressure at each Gas Collection Wellhead (40 CFR 60.756 (a)(1))

- Report all instances of positive pressure measured at the gas collection header of each individual wellhead, including value and length of time measured.
- Per 40 CFR 60.753 (b), record instances when positive pressure occurred at a wellhead in an effort to avoid a landfill fire.

Based on a review of the data, any positive pressure exceedances which were detected had a corrective action (adjusted wellhead vacuum) initiated within 5 days and was fixed within 15 days, or have a variance request (approved or pending), or were replaced by a new replacement gas well. Therefore, these wells are considered to be in compliance (See Exceedence Report in Attachment 1).

Monthly Oxygen or Nitrogen Concentration at Each Gas Collection Wellhead (40 CFR 60.756(a)(2))

- Report all instances, on a per well basis, when nitrogen concentrations exceeded 20% or oxygen concentrations exceed 5%. Report date, value and length of time of each exceedance.

- Detail action taken within 5 days to correct exceedance. Report date that exceedance was corrected (must be less than 15 days).

Based on a review of the data, any oxygen reading in excess of the regulatory limits of 5% had a corrective action (adjusted wellhead vacuum) initiated within 5 days and was fixed within 15 days, or have a variance request (approved or pending), or were replaced by a new replacement gas well. Therefore, these wells are considered to be in compliance (See Exceedence Report in Attachment 1).

Temperature of the landfill gas at each wellhead (40 CFR 60.756(a)(3))

- Report all instances, on a per well basis, when landfill gas temperature exceeded 55°C (131°F).
- Detail action taken within 5 days to convert exceedance. Report date that exceedance was corrected (must be less than 15 days).

There were multiple instances of a temperature exceeding 131°F as measured at the wellhead during the reporting period (See Exceedence Report in Attachment 1). These wells have received USEPA approved temperature variances (or pending variance requests) or were replaced with a new gas collection well (See Attachment 2 for a table of approved variances or any variance requests submitted during this reporting period). Therefore, these wells are considered to be in compliance.

2.2 Record of Operation

Description and duration of all periods when the gas stream from the collection system was diverted from the control device through a bypass line (40 CFR 60.756(b)(2)) for enclosed flare, engines or turbines, or 40 CFR 60.756(c) for utility flares).

The gas collection system at Cottonwood Hills RDF does not have a bypass line. Therefore, there were no periods of time that flow was diverted through a bypass line. All flow was directed to the permitted control device (open flare).

Description and duration of all periods when the collection system was not operating for more than 5 days.

There was no period of time during which the collection system was not operating for more than 5 days during the reporting period.

2.3 Record of Expansion

Date and location of all newly installed wells or collection system expansion (40 CFR 60.757(f)(6)).

There were no new gas collection wells installed during the reporting period.

3.0 Control Device Summary

3.1 Monitored Parameters

Flare Flame (Utility Flare)

- Report all periods of flare flame absence (40 CFR 60.758(c)(4)).

The open flare at Cottonwood Hills RDF is equipped with a thermocouple to continuously determine that a flame is present via temperature. Upon loss of flame (drop in temperature), the thermocouple automatically shuts down the blower.

In addition, the blower inlet control valve is automatically closed to prevent uncontrolled discharge. The lack of a flame at the flare is not indicative of an emissions exceedance, since the system will not operate when a flame is not present.

Flow (Utility Flare)

- Report all periods during which the control device was not operating for more than one hour; report duration of each event (40 CFR 60.757(f)(3)).

A Table of periods when the control device (open flare) was not operating for more than one hour is provided in Attachment 3. No raw landfill gas was emitted through the control device during the downtime. Therefore, the control device did not allow emissions of raw landfill gas for more than one hour.

3.2 Performance Testing

Performance Test (Utility Flare)

- Complete initial/annual performance test on the open flare in accordance with IEPA-BOA Construction Permit application number 06100058.

The performance test for 2013 was submitted on December 4, 2013.

4.0 Landfill Summary

4.1 Monitored Parameters

Surface Scan

- Report the location of each exceedance of the 500 ppm methane concentration, and the concentration recorded at each exceedance location (40 CFR 60.757(f)(5)).

The quarterly methane surface scans were conducted at the facility as required. A Table of exceedances is provided in Attachment 4. Any exceedances were corrected and re-monitored within the required timeframes.

Semi-Annual Sampling/Analysis

- Perform semi-annual sampling and analysis of landfill gas entering the control system in accordance with IEPA-BOA application number 06100058.

Sampling and analysis of the landfill gas is conducted in conjunction with the performance test for the flare. The results are submitted with the flare performance test report.

ATTACHMENT 1

COTTONWOOD HILLS RECYCLING AND DISPOSAL FACILITY
WELLHEAD PERFORMANCE COMPLIANCE AND CORRECTIVE ACTION
FOR JULY 1, 2013 to DECEMBER 31, 2013 REPORTING PERIOD

Well	Date	Temp	Pw	CH4%	CO2%	O2%	Date	Corrective Action	Temp	Pw	CH4%	CO2%	O2%	CO
MW08		**Variance request was sent to USEPA on 06/03/13 for permanent temperature variance of 145 F**												
MW08	07/12/13	129	-27.8	46.7	46.4	0.0	07/12/13	Wellhead Pw adjusted	127	-19.5				
MW08	08/28/13	137	-1.3	58.5	41.3	0.0	08/28/13	Wellhead Pw adjusted	131	-0.2	59.5	39.6	0.0	
MW08	09/09/13	129	-1.6	58.7	39.1	0.5	09/09/13	Wellhead Pw adjusted	129	-2.0				
MW08	09/24/13	129	-0.4	58.4	40.7	0.0	09/24/13	Wellhead Pw adjusted	129	-0.8				
MW08	10/02/13	128	-5.7	58.5	41.4	0.0	10/02/13	Wellhead Pw adjusted	128	-6.2				
MW08		**USEPA approved variance of 141 F on 10/31/13**												
MW08	11/25/13	133	-0.9	60.3	39.6	0.0	11/25/13	Below Approved Temp Variance	134	-3.4				
MW08	12/04/13	128	-18.4	56.1	41.3	0.0	12/04/13	Below Approved Temp Variance	128	-19.9				
MW09R		**Variance request was sent to USEPA on 09/06/12 for permanent temperature variance of 150 F**												
MW09R	07/19/13	127	-6.5	41.7	39.1	0.0	07/19/13	Wellhead Pw adjusted	127	-4.3				
MW09R	08/21/13	115	-0.2	56.6	41.1	0.1	08/21/13	Wellhead Pw adjusted	124	-0.4				
MW09R	09/24/13	146	-1.2	54.3	41.4	0.0	09/24/13	Wellhead Pw adjusted	144	-0.8	56	41.9	0.0	
MW09R	10/02/13	133	-1.9	55.9	44.0	0.0	10/02/13	Wellhead Pw adjusted	129	-1.0	55.4	44.1	0.0	
MW09R		**USEPA approved variance of 141 F on 10/31/13**												
MW09R	11/25/13	133	1.7	55.4	41.1	0.0	11/25/13	Below Approved Temp Variance	134	1.7	55.3	41.3	0.0	
MW09R	12/04/13	134	-0.6	53.9	42.0	0.0	12/04/13	Below Approved Temp Variance	135	-0.7				
MW10R		**Variance request was sent to USEPA on 09/06/12 for permanent temperature variance of 145 F**												
MW10R	07/19/13	129	-0.3	51.4	43.4	0.0	07/19/13	Wellhead Pw adjusted	128	-0.1	52.6	43.1	0.0	
MW10R	08/28/13	107	1.7	48.1	46.4	0.0	08/29/13	Wellhead Pw adjusted	132	-2.4	53.6	43.3	0.1	
MW10R	09/09/13	129	-1.7	56.0	43.4	0.0	09/09/13	Wellhead Pw adjusted	129	-1.0				
MW10R	09/24/13	146	-0.6	54.4	43.1	0.0	09/24/13	Wellhead Pw adjusted	147	-0.3	54.7	42.9	0.0	
MW10R	10/02/13	143	-2.0	55.5	44.1	0.0	10/02/13	Wellhead Pw adjusted	139	-0.1	54.8	45.1	0.0	
MW10R		**USEPA approved variance of 145 F on 10/31/13**												
MW10R	11/25/13	141	-0.4	54.3	42.9	0.0	11/25/13	Below Approved Temp Variance	143	-1.3				
MW10R	12/04/13	136	-7.4	54.3	42.5	0.0	12/04/13	Below Approved Temp Variance	137	-8.0				
MW17		**Variance request was sent to USEPA on 06/03/13 for permanent temperature variance of 150 F**												
MW17	07/19/13	141	-2.7	47.8	41.0	0.0	07/19/13	Wellhead Pw adjusted	134	-1.3	47.6	41.3	0.0	
MW17	08/08/13	117	-0.7	53.7	45.1	0.0	08/08/13	Wellhead Pw adjusted	115	-0.8				
MW17	09/24/13	129	-1.6	51.4	42.5	0.0	09/24/13	Wellhead Pw adjusted	128	-1.5				
MW17	10/02/13	123	-0.4	53.9	44.8	0.0	10/02/13	Wellhead Pw adjusted	123	-0.6				
MW17		**USEPA approved variance of 147 F on 10/31/13**												
MW17	11/25/13	141	-5.2	55.5	38.8	0.6	11/25/13	Below Approved Temp Variance	143	-1.4	55.1	43.6	0.0	
MW17	12/04/13	140	-4.8	50.4	41.9	0.0	12/04/13	Below Approved Temp Variance	140	-4.8				
MW19		**Variance request was sent to USEPA on 06/03/13 for permanent temperature variance of 150 F**												
MW19	07/19/13	109	-0.8	58.1	39.7	0.0	07/19/13	Wellhead Pw adjusted	118	-1.2				
MW19	08/08/13	126	-5.8	59.2	40.7	0.0	08/08/13	Wellhead Pw adjusted	126	-6.6				
MW19	09/30/13	127	12.3	60.0	39.0	0.0	09/30/13	Header Damaged - scheduled repair	127	12.3	60.6	38.9	0.0	
MW19	10/02/13	129	9.8	59.1	40.8	0.0	10/02/13	Header Damaged - scheduled repair	127	9.8				
MW19	10/31/13	127	-3.6	59.3	41.1	0.0	10/31/13	Header Replaced/Repaired	127	-3.7				
MW19		**USEPA approved variance of 144 F on 10/31/13**												

COTTONWOOD HILLS RECYCLING AND DISPOSAL FACILITY
WELLHEAD PERFORMANCE COMPLIANCE AND CORRECTIVE ACTION
FOR JULY 1, 2013 to DECEMBER 31, 2013 REPORTING PERIOD

Well	Date	Temp	Pw	CH4%	CO2%	O2%	Date	Corrective Action	Temp	Pw	CH4%	CO2%	O2%	CO
MW19	11/25/13	126	8.6	60.3	39.6	0.0	11/25/13	Header Damaged - scheduled repair	127	-3.7				
MW19	12/04/13	131	8.1	60.2	39.7	0.0	12/04/13	Header Damaged - scheduled repair	127	8.7				
MW19	01/30/14	136	-33.0	48.5	40.2	0.0	01/30/14	Header Replaced/Repaired	136	-33.0				
MW77	07/19/13	130	-0.5	58.8	40.5	0.0	07/19/13		129	-0.6				
MW77	08/08/13	128	-2.3	58.1	41.8	0.0	08/08/13		127	-2.5				
MW77	09/30/13	128	5.6	58.9	41.0	0.0	09/30/13	Header Damaged - scheduled repair	128	5.6				
MW77	10/02/13	128	0.8	56.8	43.1	0.0	10/02/13	Header Damaged - scheduled repair	127	0.9				
MW77	10/30/13	127	-16.9	59.8	40.1	0.0	10/30/13	Header Replaced/Repaired	128	-17.6				
MW77	11/25/13	129	-2.8	59.8	40.1	0.0	11/25/13		129	-3.6				
MW77	12/04/13	127	-23.1	57.9	42.0	0.0	12/04/13		128	-24.3				
MW79	07/22/13	125	-0.1	57.6	42.3	0.0	07/22/13		123	-0.1				
MW79	08/08/13	122	-0.1	57.0	42.9	0.0	08/08/13		121	-0.1				
MW79	09/24/13	123	-0.2	57.2	42.4	0.0	09/24/13		123	-0.2				
MW79	10/02/13	128	-0.4	56.9	43.0	0.0	10/02/13		127	-0.4				
MW79	11/25/13	96	6.0	61.0	38.8	0.0	11/25/13	Header Damaged - scheduled repair	95	6				
MW79	12/04/13	109	-1.7	59.2	40.7	0.0	12/04/13	Header Replaced/Repaired	122	-1.8				

Action shall be initiated to correct the exceedence within 5 calendar days. If correction of the exceedence can not be achieved within 15 calendar days of the first measurement, the gas system shall be expanded if temperature exceeds 55 Celcius, wellhead pressure Pw is positive, Nitrogen is 20% or above, or Oxygen is 5% or above.

ATTACHMENT 2

COTTONWOOD HILLS RECYCLING AND DISPOSAL FACILITY
USEPA GAS WELL TEMPERATURE APPROVALS

Gas Well	Approved Temp	USEPA Approval Date
MW07R1	145 F	10/31/13
MW08	141 F	10/31/13
MW09R	141 F	10/31/13
MW10R	145 F	10/31/13
MW17	147 R	10/31/13
MW19	144 R	10/31/13

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

OCT 31 2013

REPLY TO THE ATTENTION OF:

Ernest H. Dennison, P.E.
District Engineer
Waste Management of Illinois, Inc.
601 E. Madison Road
East St. Louis, Illinois 62201

Re: Cottonwood Hills Recycling and Disposal Facility
Wells MW07R1, MW08, MW09/MW09R, MW10/MW10R, MW17, and MW19

Dear Mr. Dennison:

Thank you for your letters dated June 3, 2013, September 12, 2012, September 6, 2012, January 24, 2012, December 7, 2011 and May 20, 2011, to the U.S. Environmental Protection Agency requesting higher operating temperatures for several wells at Waste Management of Illinois, Inc.'s Cottonwood Hills Recycling and Disposal Facility, located in Marissa, Illinois (Cottonwood or you). This response letter will address all your requests.

Cottonwood is subject to the New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills at 40 C.F.R. Part 60, Subpart WWW (Landfill NSPS). The Landfill NSPS sets forth operational standards and compliance provisions for gas collection and control systems under 40 C.F.R. §§ 60.753 and 60.755. Your letters request higher operating temperatures for wells MW07R1, MW08, MW09/MW09R, MW10/MW10R, MW17, and MW19. The June 3, 2013 letter summarizes your current request for each well and contains updated operating data.

Regulatory Background

Under the provisions of 40 C.F.R. § 60.753(a), an owner or operator of a landfill subject to the Landfill NSPS is required to operate a gas collection and control system (GCCS) where waste has been in place for five years or more in active areas or where waste has been in place for two years or more in closed areas that have reached final grade. A number of operating limits for wellheads in the GCCS are specified in 40 C.F.R. § 60.753(b) and 60.753(c). These provisions require that wellheads be operated under negative pressure, with a landfill gas temperature less than 131 degrees Fahrenheit (F) and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent.

40 C.F.R. § 60.755(a)(3) and (5) state that if a well exhibits positive pressure or exceeds the temperature, oxygen or nitrogen operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days. However, an alternative timeline for correcting the exceedance may be submitted to the EPA for approval. Per 40 C.F.R. § 60.753(c), the facility may also request a higher oxygen or nitrogen percentage or higher operating temperature at a particular well. The supporting data for a higher operating value request must demonstrate that the elevated operating parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

Cottonwood's Requests

MW07R1

Well MW07R1 was installed in November 10, 2010 and connected to the header system in December/January 2011. Monitoring began January 7, 2011 and the initial readings were below 131 degrees F. However, with continued gas extraction, the temperature rose to 145 degrees F in February 2011. Although the temperature was able to be reduced in 15 days to below 131 degrees F, the vacuum had to be reduced to the point where only 10 standard cubic feet per minute (scfm) of gas was being extracted. Even with reduced vacuum, temperatures have remained above 131 degrees F at this well.

A carbon monoxide (CO) reading was taken on February 15, 2011 and the reading was less than 100 ppm and subsequent readings have been less than 150 ppm.

According to your September 6, 2012 letter, there has been no physical evidence of subsurface oxidation at this well (smoke, subsidence). In addition, the data you supplied shows that methane percentages are in the 40-50 percent range, oxygen is less than 5 percent and pressure is negative.

Cottonwood is requesting a permanent higher operating temperature of 145 degrees F for MW07R1 in order to increase vacuum so that sufficient volumes of gas can be collected from this well.

EPA's Determination on MW07R1

EPA has reviewed the operating data on this well and a temperature of 145 degrees has been reached twice, once in February 2011 and once in April 2011. You state that the highest temperatures are reached in the summer months. The highest initial (unadjusted temperature reached at this well during the 2011 and 2012 summer seasons was 140 degrees Fahrenheit.

EPA understands that Cottonwood wants to increase vacuum (which may raise temperature) in order to improve gas collection. EPA believes the operating data supports a temperature limit of 145 degrees F without causing fires or significantly

inhibiting anaerobic decomposition by killing methanogens. Therefore, EPA approves a higher operating temperature of 145 degrees F. This means that the well must operate at less than 145 degrees F to be compliant.

MW08

Cottonwood is requesting a higher operating temperature of 145 degrees Fahrenheit at Well MW08. MW08 reached a temperature of 134 degrees F during the September 8, 2011 monitoring event. Corrective actions were taken and the temperature was reduced to 133 degrees F. With the advent of cooler weather, the well temperature reduced to 131 degrees. However, once spring and summer arrived with warmer ambient temperatures, the well temperatures rose to 139 degrees F. The well vacuum was reduced as a corrective action and the temperatures dropped back a few degrees but at the expense of reduced gas collection flow.

According to your letters, there has been no physical evidence of subsurface oxidation at this well (smoke, subsidence) and CO levels have been well under 100 ppm.

In addition, the operating data you supplied shows that methane percentages are in the 45-61 percent range, oxygen is less than 5 percent and pressure is negative.

EPA's Determination on MW08

This well has never operated at a temperature of greater than 139 degrees F. EPA believes the data and operating conditions of this well support the well operating at a temperature limit of 141 degrees F without causing fires or significantly inhibiting anaerobic decomposition by killing methanogens. Therefore, EPA approves a higher operating temperature of 141 degrees F. This means that the well must operate at less than 141 degrees F in order to be compliant.

MW09/MW09R

Cottonwood submitted a request for a higher operating temperature at MW09 of 155 degrees F on May 20, 2011 and then another request for a higher operating temperature of 160 degrees F on January 24, 2012.

Since the time of these requests, Well MW09 has broken off either due to landfill settlement and/or from refuse filling around the well as the methane decreased and oxygen increased. A new well MW09R was re-drilled in August 2012 and connected to the header system. You submitted data on MW09R in your June 3, 2013 letter and requested a higher operating temperature of 150 degrees F at MW09R.

According to your September 6, 2012 letter, there has been no physical evidence of subsurface oxidation at this well (smoke, subsidence). A CO measurement was taken on May 13 and was zero.

In addition, the data you supplied shows that methane percentages are in the 31-56 percent range, oxygen is less than 5 percent and pressure is negative.

EPA's Determination on MW09R

The operating data submitted on June 3, 2013 covered months September 2012 through May 2013. The highest temperature reached during this time period was 139 degrees F. EPA believes that the data and operating conditions support the well operating at a temperature limit of 141 degrees F without causing fires or significantly inhibiting anaerobic decomposition by killing methanogens. Therefore, EPA approves a higher operating temperature of 141 degrees Fahrenheit which means that the well must operate at less than 141 degrees F in order to be compliant.

MW10/MW10R

In or around August 2012, MW10 was decommissioned and MW10R was installed. The September 6, 2012 letter requested a higher operating temperature of 145 degrees F for MW10R, however no operating data was available at that time.

The June 3, 2013 letter included operating data for MW10R. CO readings taken in September 2012 and May 2013 were 50 ppm or less. In addition, the data shows that methane percentages have been in the 40-54.5 percent range, oxygen levels are less than 5 percent and pressure is negative (except for one instance).

According to your letter, there have been no physical signs of subsurface oxidation (smoke, subsidence) at this well.

EPA's Determination on MW10R

The operating data for MW10R in the June 3, 2013 letter pertained to months September 2012 to May 2013. The highest temperature reached was 143 degrees F.

EPA believes that the data and operating conditions support an operating limit of 145 degrees F without causing fires or significantly inhibiting anaerobic decomposition by killing methanogens. This means that the well must operate at less than 145 degrees F in order to be compliant.

MW17

The September 12, 2012 letter requested a higher operating temperature of 140 degrees F. According to your letter, adjusting vacuum on this well did not lower the temperature and temperatures have risen above 140 degrees F without any evidence of subsurface oxidation.

CO readings taken July 2012, August 2012 and September 2012 were all 50 ppm or lower. Methane percentages have been good (36 to 44 percent), oxygen is less than 5

percent and pressure is negative. There has been no smoke or subsidence in or around this well.

In order to be able to increase vacuum during warmer summer months and maximize capture and control of landfill gas, Cottonwood requested a higher operating temperature of 150 degrees Fahrenheit in the June 3, 2013 letter.

EPA's Determination on MW17

The operating data pertained to the period February 2012 through May 2012 (which included data from the summer of 2012). The highest temperature reached during this time was 145 degrees F. EPA believes that the data and operating conditions support an operating limit of 147 degrees Fahrenheit without causing fires or significantly inhibiting anaerobic decomposition by killing methanogens. This means that the well must operate at less than 147 degrees F in order to be compliant.

MW19

The September 6, 2012 letter requested a higher operating temperature of 145 degrees F. The June 3, 2013 letter requested a higher operating temperature of 150 degrees F in order to be able to increase vacuum during warmer months and maximize capture and control of landfill gas.

The operating data reported methane percentages in the 42 to 59 percent range, oxygen of less than 5 percent, and negative pressure. In addition, several CO readings taken during this time period were 100 ppm or less (except the reading taken in July 2011 was 175 ppm). Cottonwood has stated that there has been no physical signs of subsurface oxidation.

EPA's Determination on MW19

The operating data on this well covered the time period April 2011 through March 2013. The highest temperature reached during this time period, which included data from the 2011 and 2012 summer season, was 142 degrees F.

EPA believes that the data and operating conditions support an operating limit of 144 degrees F without causing fires or significantly inhibiting anaerobic decomposition by killing methanogens. This means that the well must operate at less than 144 degrees F in order to be compliant.

Conclusion

Cottonwood should continue to closely monitor field conditions that would indicate whether a subsurface fire is occurring at any of these wells (signs of flames, embers, smoke, steam, smoldering odors, rapid settlement of waste, or char or ash in the collection system). Wellhead monitoring data should be collected and analyzed for trends that indicate the destruction of methane-producing bacteria within the landfill. The following parameters should be monitored at least monthly: methane percentage, oxygen percentage, wellhead pressure, carbon dioxide percentage, CO percentage, temperature, and gas flow. Over time, wellhead conditions will likely change; therefore, Cottonwood should periodically evaluate whether operational conditions continue to indicate that a higher operating temperature is warranted.

If you have any questions regarding this letter, feel free to contact Linda H. Rosen, of my staff, at (312) 886-6810.

Sincerely,

Sara Breneman

Sara Breneman
Chief
Air Enforcement and Compliance Assurance Branch

cc: Ray Pilapil, Manager
Bureau of Air – Compliance and Enforcement Section
Illinois Environmental Protection Agency

ATTACHMENT 3

COTTONWOOD HILLS GAS COLLECTION SYSTEM
REPORTING FOR NON OPERATING PERIODS OF CONTROL DEVICE
3000 SCFM OPEN FLARE

Date	Time	Description of Outage	Time Back In Service	Down Time Hours	Performed By
08/31/13	12:44 AM	Flare auto shut down since it ran out of nirtrogen	08/31/13 @ 12:04 PM	11.3	MM
10/15/13	01:12 PM	Electrician installing new valve on on condensate drain and he inadvertently damaged the flare programable logic control (plc) by touching live wire	10/15/13 @ 04:48 PM	3.6	MM
10/15/13	04:48 PM	Flare shut down at night waiting for new plc	10/16/13 @ 10:40 AM	17.9	MM
10/16/13	03:08 PM	Flare shut down at night waiting for new plc	10/17/13 @ 09:06 AM	18.0	MM
10/17/13	12:56 PM	Flare shut down at night waiting for new plc	10/18/13 @ 07:20 PM	18.4	MM
10/18/13	11:10 AM	Installed temporary part to be able run at night	10/18/13 @ 01:28 PM	2.3	MM
10/21/13	11:42 AM	Troubleshooting flare relays	10/21/13 @ 12:58 PM	1.3	MM
10/23/13	01:10 PM	Replaced flare plc	10/23/13 @ 04:34 PM	3.4	MM
10/29/13	08:22 AM	Replaced flare plc a second time due to bad carrier	10/29/13 @ 01:32 PM	5.2	MM
10/30/13	01:38 PM	Auto-restart	10/30/13 @ 03:26 PM	1.8	MM
11/23/13	07:50 PM	Condensate drain on flare stack clogged and froze triggering the flare high flow alarm. Clearedd clog and restarted flare.	11/24/13 @ 09:36 AM	13.8	MM
11/24/13	09:56 AM	Flare auto shut down since it ran out of nirtrogen	11/24/13 @ 04:10 PM	6.2	MM
12/11/13	02:04 PM	Auto-restart	12/11/13 @ 03:06 PM	1.0	MM
			TOTAL	104.2	

Per Sec. 60.757 : "Each owner or operator...shall include the following information with the annual report... description and duration of all periods when the control device was not operating for a period exceeding one hour and length of time the control device was not operating."

Verified by :
Mike McElvain Gas Technician

WM01517

ATTACHMENT 4

COTTONWOOD HILLS RECYCLING AND DISPOSAL FACILITY
QUARTERLY SURFACE SCAN MONITORING EXCEEDENCES
FOR JULY 1, 2013 TO DECEMBER 31, 2013 REPORT PERIOD

Quarter	Date	Location		Methane Conc ppm	Corrective Action	Date	Methane Conc ppm	Additional Corrective Action	Date	Methane Conc ppm
		North	West							
3rd	08/29/13			All < 170	None Required			NA		
4th	12/24/13			All < 200	None Required			NA		